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09/830,187	06/25/2001	Monte Bruce Wilson	Q63960	2958

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EXAMINER

HARDEE, JOHN R

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 07/11/2003

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 17

Application Number: 09/830,187
Filing Date: June 25, 2001
Appellant(s): WILSON, MONTE BRUCE

Alan J. Kasper
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 25, 2003.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

Examiner notes that the header on pp. 2, ff. is incorrect, but does not believe that this rises to the level of making the brief defective.

(6) *Issues*

The appellant's statement of the issues in the brief is correct. However, the rejections under 35 USC 103 have been withdrawn.

(7) *Grouping of Claims*

The rejection of claims 2, 3, 5, 7, 11-13 and 15 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,421,192	HENRY	6-1995
4,758,366	PAREKH	7-1988
WO 98/51450	DESAI et al.	12-1998

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-7, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Henry, US 5,421,192. The reference discloses compositions comprising naphthalimide fluorescent dyes, refrigeration lubricants and lubricant inhibitors which are incorporated into a refrigeration system (col. 2, lines 10+). The composition comprising refrigerant, lubricant and dye is circulated throughout the entire pressurized system (col. 2, lines 38+), implying at least some degree of mutual solubility. Examiner notes that both pipes and compressors, essential parts of refrigerating systems, are cylindrical. Suitable lubricants include hydrocarbons, including natural and refined mineral oils, synthetic hydrocarbons, alkylbenzenes, polyalphaolefins, etc. In most cases, the dye should be solubilized by an appropriate solvent. Dye is present in a concentration of at least 0.001 g of dye per 100 g of refrigeration working fluid. As a refrigerant works by condensation to a liquid and expansion to a gas, the composition is at least partially in the liquid phase. The dye is formulated into a concentrate by admixture with a solvent. The concentrate is compatible with mineral oils, synthetic

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polyalkylene glycol and polyolester refrigeration lubricants, which are among the lubricants recited by applicant (col. 3, lines 23+). A condensation vessel may be reasonably inferred as being present, and this also reads on applicant's recitation of a cylinder, in the sense that a pressure vessel is broadly referred to as a cylinder. See also the bottom paragraph of p. 4, of the specification, which equates storage vessels and cylinders generally. Suitable refrigerants, including some of those recited by applicant, are disclosed at the top of col. 3. Claims 11 and 12 are drawn to intended use. As the compositions are anticipated, these claims are as well.

2. Claims 1-7, 11-13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Parekh, US 4,758,366. See claim 1, which recites a composition consisting of a polyhalogenated hydrocarbon refrigerant, a refrigeration oil and a fluorescent dye in a solvent. Many of the recited refrigerants are not CFCs. A suitable naphthalimide dye is disclosed at col. 3, lines 47+. Many of the recited refrigerants and oils (col. 4, lines 15+) read on those recited by applicant. Dye is present in a concentration of at least 0.001 g of dye per 100 g of refrigeration working fluid (col. 3, lines 20+). As a refrigerant works by condensation to a liquid and expansion to a gas, the composition is at least partially in the liquid phase. A condensation vessel may be reasonably inferred as being present, and this reads on applicant's recitation of a cylinder, in the sense that a pressure vessel is broadly referred to as a cylinder. In addition, refrigeration working fluids circulate through pipes, which are cylindrical, as are compressors, which are essential to the refrigeration function. Claims 11 and 12 are drawn to intended use. As the compositions are anticipated, these claims are as well.

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The compositions are disclosed as circulating through the refrigeration system, implying mutual solubility.

3. Claims 1-7, 11-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/54150. The reference discloses naphthalimide dyes which can preferably be used in refrigerated lubricants (p. 6, lines 16+) based on mineral oils or other hydrocarbons. Preferably, the refrigerant lubricants are miscible in all proportions with R-134a (p. 6, lines 20+). R-134a is 1,1,1,2-tetrafluoroethane, which is a non-CFC refrigerant. The dye compound is used at about 0.01% to 0.08% (p. 7, lines 17+). Where necessary, the dye may be dissolved in a carrier solvent (p. 5, lines 13+). Note the teaching that an excessively high concentration of dye could increase the chance of the dye falling out of solution at low temperatures (p. 7, bottom). This implies that the dye is expected to be in solution. This reference differs from the claimed subject matter in that it does not disclose a composition which reads on applicant's claims with sufficient specificity to constitute anticipation.

It would have been obvious at the time the invention was made to make such a composition, because this reference teaches that all of the ingredients recited by applicants are suitable for inclusion in a leak detection composition which is subsequently added to a refrigerant. The person of ordinary skill in the surfactant art would expect the recited compositions to have properties similar to those compositions which are exemplified, absent a showing to the contrary.

In the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art, a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257,

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191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed Cir. 1990).

(11) Response to Argument

The arguments submitted with appellant's brief have been carefully considered, but they are not found to be persuasive. Appellant argues that the Henry reference does not mention a containerized refrigeration composition that includes a dye, solvent and CFC (sic) refrigerant. This is not persuasive because a refrigeration system is a container, and it comprises cylindrical parts, namely pipes and a compressor. Appellant further argues that the reference does not recognize the problem encountered by the appellant with transportation and storage of a mixture of refrigerant components. If appellant meant to claim a simple, pressurized storage tank containing refrigerant, solvent, dye and lubricant, he has not done so. The claims are broad enough to encompass a refrigerator containing refrigerant, solvent, dye and lubricant. Appellant argues that the Henry reference does not disclose the presence of a uniformly homogeneous liquid phase. This is not persuasive because the reference and applicant's specification disclose the same refrigerants, dyes and lubricants. Henry teaches that a composition comprising these will circulate throughout the system, implying some degree of mutual solubility. Alternatively, the reference clearly teaches that the lubricant, solvent and dye are mutually soluble (col. 3, lines 23+). Mutual solubility of this mixture with the refrigerant is therefore a physical characteristic of the refrigerant. As the reference and appellant are working with the same refrigerants, there is every expectation of mutual solubility.

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Appellant makes similar arguments vis-à-vis Parekh and a storage cylinder. Again, the claims are broad enough to read on an air conditioning system. Appellant argues that there is no teaching of a storage of a mixture of refrigerant, dye and solvent in a cylinder for later introduction into a system. This is not persuasive because the cylindrical parts of any and every refrigeration system meet the recited limitation of a pressurized cylinder. Appellant further argues that the reference do not disclose a storage vessel with contains the mixture in a static form. This is not persuasive because the references need not teach this, as this has not been claimed. In addition, a refrigerator which has been turned off will store these materials in a static form.

Arguments regarding the Desai reference are similar. The crux of the issue is whether or not a refrigeration system meets the limitations of a "pressurized cylinder". Again, examiner notes the strong implicit teaching of the mutual solubility of the entire circulating composition—dye, lubricant and refrigerant at the bottom of p. 7 of the reference. Again—the same dyes, the same refrigerant and the same lubricants (p. 7, top) appear in both the reference and appellant's specification. There is every expectation that identical mixtures will behave similarly.

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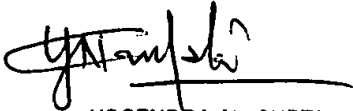
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

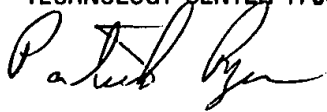


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